



INSTREAM FLOW PILOT STATUS REPORT November 1, 2008

NH Rivers Management and Protection Program

New Hampshire Department of Environmental Services
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The NH Instream Flow Program consists of the two pilot studies on the Souhegan and Lamprey Designated Rivers and other activities that protect instream flows. The Rivers Management and Protection Act requires flow protection for Designated Rivers. There are currently 15 Designated Rivers under this program.

A. PROGRAM-WIDE ACTIVITIES

1. NOAA Funding

The NOAA grant, which awarded \$545,000 to the NH Instream Flow Program in October 2004, was extended by Governor and Council (G&C) to September 30, 2009. The grant provides funds for the consulting work on the Lamprey Pilot Project's Protected Instream Flows Study and Water Management Plan, and also for DES's administration of the pilot program covering both the Lamprey and Souhegan Rivers. April 9, 2008, NOAA determined that no National Environmental Policy Act (NEPA) assessment is required for the existing scope of the grant activities since this funding would not be used for activities to implement the Water Management Plans. In 2008, DES hired a part-time, temporary staff person using the remaining personnel and fringe benefits funding in the NOAA grant. Kathie Fife started May 12, 2008 as the Instream Flow Environmentalist. Funding for her position will run out in May 2009. Wayne Ives, Instream Flow Specialist, and Al Larson, Normandeau Associates, accompanied Joyce Lacerda, National Marine Fisheries Service (NOAA), on a site visit to the Lamprey Designated River on August 22, 2008.

2. Stream Gage Network Improvements

In 2007, the New Hampshire legislature approved a capital budget fund of \$120,000 for additional stream flow gages. The funding will provide for installation of ten gages. Additional funds in the amount of \$80,536 were requested under an Emergency Management Performance Grant through the Department of Safety. This funding will provide for the installation of an additional five gages. Priorities for gage location were developed in 2006 by the Stream Gage Task Force, a multi-stakeholder group who prioritized gage needs for New Hampshire. The task force report can be found at http://des.nh.gov/organization/divisions/water/wmb/rivers/rmac/nh_sgtf.htm.

A cooperative agreement with US Geological Survey directed the installation of seven stream gages during 2008 with the remaining eight gages to be installed next year. Operation and maintenance funds for these gages will be needed after October 2009 or they will be closed. With the seven gages installed, the NH stream gage network has increased from 38 to 45 continuous record stream gages. The state network had increased to 45 continuous record gages in 1942 and reached its maximum of 61 in 1968.

3. Legislation to extend the duration of the Pilot Program

Both rivers in the pilot program need additional time for completion. The Souhegan pilot spent 2007 in the public review process and the resulting revisions. The first draft of the Proposed Protected Instream Flow Report was presented to the Souhegan Technical Review Committee in March 2006 and approved in January 2007 for public hearing. The revisions resulting from comments following the March 21 public hearing were completed October 1, 2007.

The Lamprey Pilot began a year later than the Souhegan Pilot and was further delayed in starting because of contractual issues such that field work was started the following season. In addition, the Lamprey project included three additional tasks. The first was added to the original contract prior to signing and assessed methods and results of conducting habitat assessment for fish using aerial photograph. This task would be used to scale assessment procedures up to larger watersheds like the Connecticut and the Merrimack. March 3, 2008 a corollary was added to assess methods and results of conducting habitat assessments for riparian vegetation and wetlands using aerial photograph. This would allow rapid assessments of the two most labor intensive field activities in the Lamprey Pilot. An additional low flow fish survey was approved August 22, 2008. This survey was added when flows dropped to their normal low levels for the first time in over two years. The contractor had met the contract requirements for the number of surveys to be completed, but had not had the opportunity to survey these low flow levels until the end of the second field season.

Sections 2 and 3 of HB1601-FN-A (Laws of 2008, Chapter 5 - attached and at <http://www.gencourt.state.nh.us/legislation/2008/HB1601.html>) was passed April 24, 2008 extending the duration of the pilot program for an two years culminating in a final report to the legislature due December 2010. (See dates in the schedule in Section D.)

4. Meetings and training

Wayne Ives, Instream Flow Specialist, attended the September 8, 2008 kick-off meeting of the Connecticut River Ecosystem Restoration Investigation in Turners Falls, MA. The purpose of the investigation is to determine how management of various dams and water systems can be modified for environmental benefits while maintaining human uses such as water supply, flood control and hydropower generation.

Wayne Ives participated in an Instream Flow Council conference in San Antonio, TX October 7 through 9, 2008. The conference described techniques for defining and implementing instream flows that meet core interests of disparate water users. These techniques have immediate application in developing the Pilot Program's Water Management Plans.

5. Instream Flow Presentations

Wayne Ives gave a number of presentations describing the NH Instream Flow Program. One presentation was given at Plymouth State University November 27, 2007 to the Pemigewasset Local River Management Advisory Committee with members of the Baker Watershed Association in attendance. The Baker Association may wish to nominate that river for Designation. A story describing the establishment of the Souhegan protected flows was printed in the Spring 2008 issue of *Meanderings*, the NH River Management and Protection Program's newsletter. A presentation was given at the second annual New Hampshire Water Conference was held on April 16, 2008 in Concord, NH. The theme was Science, Policy, and Management of Water in New Hampshire. On May 14, 2008 the Wayne Ives and the Lamprey River project consultants gave a presentation to a group attending the River Management Society's conference in Portland, Maine. The group spent the day at UNH where the presentation was given followed by a tour of a portion of the Designated Segment of the Lamprey River. The SB330 Committee members were sent a copy of the Souhegan Protected Instream Flow Study on CD and a copy of *Meanderings* on June 19, 2008. Wayne Ives gave a presentation July 11, 2008 to the graduate-level Water Resources class at Antioch College in Keene, NH.

6. Third-party review of the PISF methods and results

As part of the process for evaluating the final results of the Pilot Program, DES plans to conduct a third-party review of the Lamprey and Souhegan PISF methods and results. Funding from the NOAA grant is proposed to support this activity. The review will be overseen by the Instream Flow Council (<http://www.instreamflowcouncil.org/>) an organization that "represents the interests of state and

provincial fish and wildlife management agencies in the United States and Canada dedicated to improving the effectiveness of their instream flow programs.” The review process will involve preparation a formal report outline describing the required discussion topics (draft completed). The next step is selection of the three members of the review panel. DES’s contractors will make formal presentations of the theoretical and applied methodology with interactive review by the panel members supported by the contractors. The review panelists will submit individual evaluation reports that will be compiled and summarized for submittal as part of the DES report required by December 2010 to the Senate President, the Speaker of the House of Representatives, the Governor, and the state library.

7. Annual Water Use versus Stream Flow Assessments

Env-Ws 1903.02 of the ISFR requires annual reporting of water use versus stream flow for the Designated Rivers. Please refer to <http://www.des.state.nh.us/rules/Env-Ws1900.pdf> to read a copy of these rules. The ISFR require the annual report to include:

- (1) An estimate of water use for each Affected Water User;
- (2) An estimate of aggregate water use at each withdrawal or return location;
- (3) An estimate of stream flow at each withdrawal or return location;
- (4) A record of the month(s) and location(s) not in compliance with the General Standard for Designated Rivers without established Protected Instream Flows under Env-Ws 1905;
- (5) A description of the WMPA [Water Management Planning Area] for Designated River(s) that are not in compliance with the General Standard; and
- (6) For each Designated River with protected instream flows established under Env-Ws 1905, a record of the date(s) and location(s) at which protected instream flows were not maintained. To date this assessment has been completed and posted on the DES Instream Flow website for the years 2003 and 2004.

<http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/documents/entire2003report.pdf>
<http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/documents/entire2004report.pdf>

The report for 2005 is nearly completed. Kathie Fife will be focusing on completing the 2006 and 2007 during the fall and winter of 2008-2009.

B. SOUHEGAN RIVER PILOT PROJECT

1. Instream Flow Committees

Individual reports are available for the activities of the Souhegan Technical Review Committee and the Souhegan Water Management Planning Area Committee. The Technical Review Committee has fulfilled its specific duty under Laws of 2002, Chapter 278, but will provide technical support when needed in developing the Water Management Plan. The WMPAAC supported the public hearing held on March 21, 2007 and met in October 2007 to begin the Water Management Plan. Meeting information for these Souhegan committees is available at

<http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/souhegan/trc.htm> and
<http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/souhegan/wmpa.htm>.

2. Souhegan Protected Instream Flow Study and Water Management Plan

UNH is responsible for conducting the Protected Instream Flow Study and developing the Water Management Plan. UNH’s proposal for the Protected Instream Flow Study and Water Management Plan can be read at <http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/souhegan/index.htm>. The deadline for contract completion was extended to March 31, 2009.

The public hearing to present the results of the Proposed Protected Instream Flow report and invite comments was held March 21, 2007. The Souhegan protected flows are described in a report titled Souhegan River Protected Instream Flow Report and dated October 1, 2007 that can be found at the DES

Public Information and Permitting Unit on Hazen Drive in Concord and at the State Library or at <http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/souhegan/study.htm> under Task 7.

On April 1, 2008 the commissioner of Environmental Services as stipulated by [Laws of 2002, Chapter 278:3, III \(b\)](#) established the Souhegan protected instream flows as Water Quality Standards for the Souhegan Designated River. Attachments to this report include the signed **Declaration of the Establishment of Protected Instream Flows for the Souhegan Designated River** and supporting tables.

Water Management Plan is in development. These plans include three components that will be developed with Affected Water Users and Affected Dam Owners: conservation plans, water use plans and dam management plans.

ESTIMATED TIMELINE

For Souhegan River Instream Flow Protection Pilot Project

April 08 (done)	DES establishes the Protected Instream Flow for the Souhegan
November 08	Task 8 – Assessment of Water Use with the Established PISF
December 08	Task 9 – Development of WMP Sub-Plans
January 09	Task 10 – Proposed WMP
March 09	Task 11 – WMP Public Hearing (joint)
April 09	Task 12 – WMP Report for the Souhegan
	DES adopts Water Management Plan for Souhegan

C. LAMPREY RIVER PILOT PROJECT

1. Instream Flow Committees

Individual reports are attached for the activities of the Lamprey Technical Review Committee and the Lamprey Water Management Planning Area Committee. The Lamprey Technical Review Committee has met to review the draft Proposed Protected Instream Flow report dated September 22, 2008.

Lamprey Water Management Planning Area Committee members were invited to those meetings.

Committee meeting information is available at

<http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/lamprey/trc.htm> and

<http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/lamprey/wmpa.htm>.

2. Lamprey Protected Instream Flow Study and Water Management Plan

Normandeau Associates (NAI) is the lead firm responsible for conducting the Protected Instream Flow Study and developing the Water Management Plan. The proposal for the Lamprey Protected Instream Flow Study and Water Management Plan can be read at

http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/lamprey/documents/unh_umass_nai.pdf. The contract with NAI was extended to September 30, 2009.

Task 5, the protected instream flow study assessments, began in the late fall of 2005 but required until August 2007 to be completed because stream flows were too high until then to make the final low flow survey. The flow assessments and the draft Proposed Protected Instream Flow report have been completed.

Tasks 5A and 5B, which were added to the pilot program to assess remote sensing methods of assessing stream flow needs, are in progress. These assessments include testing airphoto-based survey methods with comparisons of the results of this method against the traditional field-based methods. These methods are being tested to replace much of the labor-intensive field work of the transect survey method currently used. The Lamprey Technical Review Committee will review these results.

ANTICIPATED TIMELINE

For Lamprey River Instream Flow Protection Pilot Project

November 08	Task 5 – PISF Assessments (completed) and Proposed PISF Report
January 09	Task 6 – PISF Public Hearing (jointly with legislature)
February 09	Task 7 – PISF Report for the Lamprey River
April 09	DES establishes the Protected Instream Flow for the Lamprey
April 09	Task 8 – Assessment of Water Use with the Established PISF
May 09	Task 9 – Development of WMP Sub-Plans
July 09	Task 10 – Proposed WMP
August 09	Task 11 – WMP Public Hearing (jointly with legislature)
September 09	Task 12 – WMP Report for the Lamprey
	DES adopts Water Management Plan for Lamprey

D. ADDITIONAL TASKS FOLLOWING ADOPTION OF THE LAMPREY AND SOUHEGAN WATER MANAGEMENT PLANS

The Pilot Program will be completed by the establishment of Protected Instream Flows and adoption of Water Management Plans on the Lamprey and Souhegan Rivers. One year following the WMP adoptions, the DES will hold a public hearing followed by a comment period. At the end of this period the DES and the SB330 committee will present their final reports to the governor and the legislature.

PILOT COMPLETION DEADLINES (as revised by Laws of 2008, Chapter 5 (HB1601-FN-A))

By April 1, 2009	DES report to legislature (PISF and WMPs)
By June 1, 2009	DES/legislative committees hold public hearing(s) jointly
By October 1, 2009	Lamprey and Souhegan PISFs and WMPs adopted
By October 1, 2010 or one year following WMPs adoption	DES public hearing and 30-day comment period
By December 1, 2010	DES final report to legislature
By December 1, 2010	SB 330 report to governor and legislature